SECURITY FOR BUILDING OCCUPANTS AND ASSETS

Subject: Airport Design | **Current:** 2010 | **Grade:** 9-12 **Day:** 1-3 of 3

1 Purpose

The purpose of this lesson set is to provide students with three levels of involvement with the subject content: to explore the multiple issues of federal building security, to introduce concepts of five levels of federal building security; to apply the fifty-two accepted security standard practices for federal buildings. Each is to be engaged in one of three sequenced class sessions.

2 Duration of Lesson

50 Minutes for each session (one per day)

3 Objectives

- Frame an awareness of types of attacks--threat assessment
- Develop an understanding of building vulnerabilities assessment
- Demonstrate an ability to conduct a risk analysis

"Depending on the building type, acceptable levels of risk, and decisions made based on recommendations from a comprehensive threat assessment, vulnerability assessment, and risk analysis, appropriate countermeasures should be implemented to protect people, assets, and mission. Types of attack and threats to consider include:

- Unauthorized entry (forced and covert)
- Insider threats
- Explosive threats: Stationary and moving vehicle-delivered, mail bombs, package bombs
- Ballistic threats: Small arms, high-powered rifles, drive-by shootings, etc.
- Weapons of mass destruction (chemical, biological, and radiological)
- Cyber and information security threats"

From National Institute of Building Sciences' Whole building design guide. Retrieved March 30, 2010 from http://www.wbdg.org/design/provide_security.php

4 Standards & Benchmarks

SOCIAL STUDIES

United States Government

Students will identify and define ideas at the core of government and politics in the United States, interpret Founding-Era documents and events associated with the core ideas, and explain how commitment to these foundational ideas constitutes a common American civic identity. They will also analyze issues about the meaning and application of these core ideas to government, politics and civic life, and demonstrate how citizens use these foundational ideas in civic and political life. **USG.2**

Define and provide historical and contemporary examples of fundamental principles and values of American political and civic life, including liberty, security, the common good, justice, equality, law and order, rights of individuals, and social diversity. (Core Standard) **USG.2.5**

Geography And History Of The World

Students will examine the physical and human geographic factors associated with examples of how humans interact with the environment, such as deforestation, natural hazards and the spread of diseases, and the regional and global consequences of these interactions. **GHW.9**

Use maps to identify regions in the world where particular natural disasters occur frequently. Analyze how the physical and human environments in these regions have been modified over time in response to environmental threats. Give examples of how international efforts bring aid to these regions and assess the success of these efforts. **GHW.9.1**

Example: Japan (earthquakes): building reinforced skyscrapers, training for emergency in a disciplined society; United States (hurricanes): the response in Florida and Louisiana, government aid, flood-prone areas in urban environment; Indian Ocean (earthquakes, tsunamis): lack of warning systems in the third world countries, worldwide relief efforts, foreign aid; Colombia (volcanoes): mud-flows, government response in remote areas of the world; Pakistan (earthquakes): remote areas, lack of building codes, terrorist activity; and China (floods): deadly floods on the Hwang Ho River.

Indiana Department of Education. (n.d.). Indiana Standards and Resources: Social Studies: U.S. Government and Geography and the History of the World. Retrieved from http://dc.doe.in.gov/Standards/AcademicStandards/StandardSearch.aspx

5 Vocabulary

For a definition and discussion of the following concepts, see National Institute of Building Sciences' Whole building design guide. Retrieved March 30, 2010 from http://www.wbdg.org/design/provide_security.php

- Unauthorized Entry (Forced and Covert)
- Unauthorized Entry (Forced and Covert) goes here
- Explosive Threats: Stationary and Moving Vehicle-Delivered, Mail Bombs, Package Bombs
- Ballistic Threats
- Weapons of Mass Destruction: Chemical, Biological, and Radiological (CBR)
- Cyber and Information Security Threats
- Development and Training on Occupant Emergency Plans

6 Materials

Computer in classroom with internet connection; Audio and Video Output Devices for the Computer; In-class Worksheets and Handouts

7 Additional Resources

None

8 Procedures & Methods

A. Introduction

A Department of Justice study called "Vulnerability Assessment of Federal Facilities", conducted in response to a Presidential directive and issued one day after the 19 April 1995 Oklahoma City bombing, produced recommended minimum standards for security at federal facilities. It divided federal sites into five security levels ranging from Level 1 (minimum security needs) to Level 5 (maximum). The study listed recommendations for upgrading federal building security, including 52 security standards addressing such items as parking, lighting, physical barriers, and closed circuit television monitoring.

B. Development

Day 1___Students are divided into five groups and each are asked to choose one of the security levels and prepare a presentation on the distinct features established for federal buildings/sites of their chosen security level each, using the referenced sources.

C. Practice

Day 2___Students remain in their five groups and are asked to consider the security standards recommended by the referenced Department of Justice Study "Vulnerability Assessment of Federal Facilities". They should discuss the relation of these standards to building site and construction. Each group should decide on what they consider to be the most important recommendations for an airport.

D. Independent Practice

Day 3___Students are asked independently to select five of the security standards and to imagine (as if they were a terrorist) where and how they could try to attack or breach the security of an airport. They should share their thoughts with classmates to see how many their ideas relate.

E. Accommodations (Differentiated Instruction)

Some students may be most skillful researching the scientific basis and technical aspects of a respective security standard.

Some students may be most comfortable with diagramming the physical layout of the airport and its site, locating points of vulnerability.

Some students may have a natural affinity for illustrating the techniques in an airport building as called for in the federal security standards.

Some students might be most adept at organizing a team presentation and writing/editing the narrative of the team report to be made to the rest of the class.

F. Checking For Understanding

No matter what distinctive task a student embraces as a team member and as an individual she/he should be able to demonstrate a comprehensive understanding by the recount and summation of all that has been presented by all five teams. Each student contributes to the discussion to demonstrate knowledge of conducting a threat assessment, identifying vulnerabilities, and producing a risk assessment for an airport site and terminal.

G. Closure

Students should document their experience in final report form, annotating their rationale for the threat assessment, vulnerabilities assessment and risk analysis.

9 Evaluation

Students are to be evaluated on the clarity with which they present the content of their reports, including:

- Concise but thorough writing;
- Annotation of appropriately excerpted/constructed illustrations;
- Logic and organization of the presentation;
- Quality of the report formatting.

10 Teacher Reflection

To be completed by the teacher after teaching the lesson.

11 Resources & Media

Computer in classroom with internet connection; Audio and Video Output Devices for the Computer; In-class Worksheets and Handouts

Security Centers

Anti-Terrorism Force Protection (DOD) (Limited access)

Defense Threat Reduction Agency

Department of Defense (DOD) Anti-terrorism body—Pentagon's J34

Federal Emergency Management Agency (FEMA) All-Hazard Mitigation Program on Anti-terrorism

Naval Facilities Engineering Service Center (NFESC), Security Engineering Center of Expertise ESC66 - E-mail: securityeng@nfesc.navy.mil

USAF Electronic System Center (ESC), Hanscom AFB

U.S. Army Corps of Engineers, Electronic Security Center

U.S. Army Corps of Engineers, Protective Design Center

U.S. Department of Defense

U.S. Department of Homeland Security

Organizations and Associations

The American Institute of Architects (AIA) Security Resource Center

American Society of Civil Engineers (ASCE)

American Society of Industrial Security (ASIS)

Battelle Memorial Institute, National Security Program

Center for Strategic and International Studies (CSIS)

Centers for Disease Control and Prevention (CDC)

Federal Facilities Council (FFC) Standing Committee on Physical Security and Hazard Mitigation (Sponsored by National Academies of Science)

International CPTED Association (ICA)

National Academy of Sciences

National Defense Industrial Association (NDIA)

National Institute of Standards and Technology (NIST)

Postal Security Action Group (PSAG)

Protective Glazing Council (PGC)

Security Industry Association (SIA)

Society of American Military Engineers (SAME)

The Infrastructure Security Partnership (TISP)

U.S. Army Soldier and Biological Chemical Command (SBCCOM)

Trade Journals/Magazines

Architectural Design for Security and Security and Technology Design by Donald M. Rochon. June 1998.

Designing for Crime and Terrorism, Security and Technology Design by Randall I. Atlas. June 1998.

Government Security

Security Magazine

Security Solutions Online: Access Control and Security Systems

Security through Environmental Design, Security and Technology Design by Robert Pearson. September 1997.

Training Courses

FEMA E155—Building Design for Homeland Security

Others

Agent-Based Simulation of Human Movements During Emergency Evacuations of Facilities. (PDF 168 KB, 10 pgs) Joseph L. Smith, PSP, Applied Research Associates, Inc.

Anthrax-Contaminated Facilities: Preparations and a Standard for Remediation by the Congressional Research Service. 2005.

Creating Defensible Space by Oscar Newman. Washington, DC: U.S. Department of Housing and Urban Development, April 1996.

National Symposium of Comprehensive Force Protection, Society of American Military Engineers (SAME), Charleston, SC, Oct 2001. Lindbergh & Associates.

NIST WTC Investigation: Building Standards and Codes: Who is in Charge?

Protecting Building Occupants from Biological Threats—Website from the Center for Biosecurity of UPMC that includes useful information about biological threats to building occupants, practical steps for reducing risk, and costs and benefits of risk reduction measures, along with a wealth of related materials and additional resources

ATTACHMENT #1

Navy Facilities Engineering Command Anti-Terrorism Services Team

For a brief discussion of the threat of terrorism and photographs of threats and acts go to:

https://portal.navfac.navy.mil/portal/page/portal/navfac/navfac_ww_pp/navfac_nfesc_pp/atfp/atservices_tab